

IN THE CLAIMS:

A complete listing of the claims and their status as of this Amendment is as follows:

1. ~~10~~<sup>1</sup> (Currently amended) A process for the production of wear-resistant, coated surfaces with at least two electrodes<sub>1</sub> connected to a voltage source<sub>1</sub> which are disposed in or are adjacent a reaction space through which an electrolyte flows and in which the surface to be coated is located, the process comprising:

providing a workpiece having a surface to be coated;

exposing said surface of said workpiece to the flow of an electrolyte, said electrolyte flow being in a defined direction;

selectively reversing the flow of the electrolyte at least once during the coating process for an amount of time as a function of the to provide said surface of said workpiece with a coating of selected thickness and form of the surface of the workpiece before or during the coating process; and

thereby forming an oxide layer (Al<sub>2</sub>O<sub>3</sub>) on a said surface selected from the group consisting of aluminum and aluminum alloy.

2. ~~11~~<sup>1</sup> (Currently amended) The process according to claim ~~1~~<sup>1</sup> ~~10~~, wherein the method comprises reversing flow based on precalculated flow times.

3. ~~12~~<sup>1</sup> (Currently amended) The process according to claim ~~1~~<sup>1</sup> ~~10~~, wherein the said defined direction of flow of said electrolyte flows in a certain direction is determined as a function of the form of the said surface of the said workpiece before the coating process.

4. ~~13~~<sup>1</sup> (Currently amended) The process according to claim ~~1~~<sup>1</sup> ~~10~~, wherein the method comprises coating a said surface which of said workpiece to be coated is curved.

5. ~~14~~<sup>1</sup> (Currently amended) The process according to claim ~~1~~<sup>1</sup> ~~10~~, wherein the method

~~comprises coating a said surface which of said workpiece for coating is plane planar.~~

6. ~~15.~~ (Currently amended) The process according to claim ~~10~~<sup>1</sup>, wherein the method comprises selectively reversing said electrolyte flow to develop different layer thicknesses on the said surface to be coated.
7. ~~16.~~ (Currently amended) The process according to claim ~~10~~<sup>1</sup>, wherein the method comprises selecting a workpiece having a ~~frusto-conical~~ conically-shaped void formed therein and selectively reversing the flow of electrolyte to form an oxide layer defining a generally cylindrical void.
8. ~~17.~~ (Currently amended) The process according to claim ~~10~~<sup>1</sup>, wherein the method comprises disposing at least two connecting lines in communication with the working surface, where a first connecting line serves as the inlet and a second connecting line serves as the outlet for the electrolyte which can be transported with the aid of a feed line and at least two electrodes, connected to a voltage source, which are disposed in communication with the reaction space, and a change-over device for selectively reversing flow through the inlet and the outlet.
9. ~~18.~~ (Currently amended) The process according to claim ~~10~~<sup>8</sup> ~~17~~ wherein the method comprises forming one electrode from the surface to be coated.
10. ~~19.~~ (Currently amended) ~~A workpiece having defining a valve hole with a~~ The process according to claim ~~10~~<sup>1</sup> wherein said surface which is generally conical and an oxide coating with a distribution of layer thicknesses so that the to be coated surface has a cylindrical form is comprised of aluminum or aluminum alloy such that an oxide layer is formed thereon.
11. ~~20.~~ (Currently amended) An apparatus for the production of wear-resistant

surfaces with having a reaction space ~~comprising~~ connected to at least two connecting lines where a first connecting line serves as the inlet and a second connecting line serves as the outlet for an electrolyte which can be transported with the aid of a feed line, and at least two electrodes, connected to a voltage source, which are disposed in communication with the reaction space, and a change-over device for selectively reversing flow through ~~the~~ said inlet and ~~the~~ said outlet.

12. ~~21.~~ (Currently amended) The apparatus according to claim ~~20~~ <sup>11</sup> wherein at least one electrode if is formed from a working surface to be coated, ~~the working~~ said surface being selected from the group consisting of aluminum and an aluminum alloy.

13. ~~22.~~ (Currently amended) The apparatus according to claim ~~20~~ <sup>12</sup> ~~21~~, wherein the working said surface to be coated is curved.

14. ~~23.~~ (Currently amended) The apparatus according to claim ~~22~~ <sup>12</sup> ~~21~~, wherein the working said surface to be coated is cylindrical.

15. ~~24.~~ (Currently amended) The apparatus according to claim ~~23~~ <sup>12</sup> ~~21~~, wherein the working said surface to be coated defines a plane.

Please add the following new claims:

16. ~~25.~~ (New) A process for the production of wear-resistant coated surfaces, comprising:  
providing an electrolytic apparatus comprising a reaction space through which an electrolyte is flowable, at least two electrodes connected to a voltage source and disposed adjacent to or in said reaction space;  
providing a workpiece having a surface to be coated;  
placing said surface to be coated in said reaction space;  
directing the flow of an electrolyte through said reaction space in a defined direction;

and

selectively reversing the flow of said electrolyte at least once during the coating process to form a coating on said surface of selected thickness and form.

17. ~~26.~~<sup>16</sup> (New) The process as set forth in claim ~~25~~ wherein said workpiece is configured with an opening therethrough having a first end with a diameter  $\emptyset_1$  and a second end with a diameter  $\emptyset_2$  and an inner surface to be coated extending between said first end and said second end, and wherein the time for coating said surface is determined by the equation:

$$\Delta\emptyset = \emptyset_{\text{setting value}} - K(\emptyset_1 + \emptyset_2)/2,$$

where  $\emptyset_{\text{setting value}}$  is the selected diameter thickness and K is a constant.

18. ~~27.~~<sup>17</sup> (New) The process as set forth in claim ~~26~~ wherein  $\emptyset_1$  does not equal  $\emptyset_2$  before and after the coating process.

19. ~~28.~~<sup>17</sup> (New) The process as set forth in claim ~~26~~ wherein  $\emptyset_1$  does not equal  $\emptyset_2$  before the coating process and  $\emptyset_1$  and  $\emptyset_2$  are equal after the coating process.

20. ~~29.~~<sup>16</sup> (New) The process as set forth in claim ~~25~~ wherein said surface to be coated is connected to said electrolytic apparatus as the anode.

21. ~~30.~~<sup>16</sup> (New) The process as set forth in claim ~~25~~ wherein said surface to be coated is formed from aluminum or an alloy thereof.